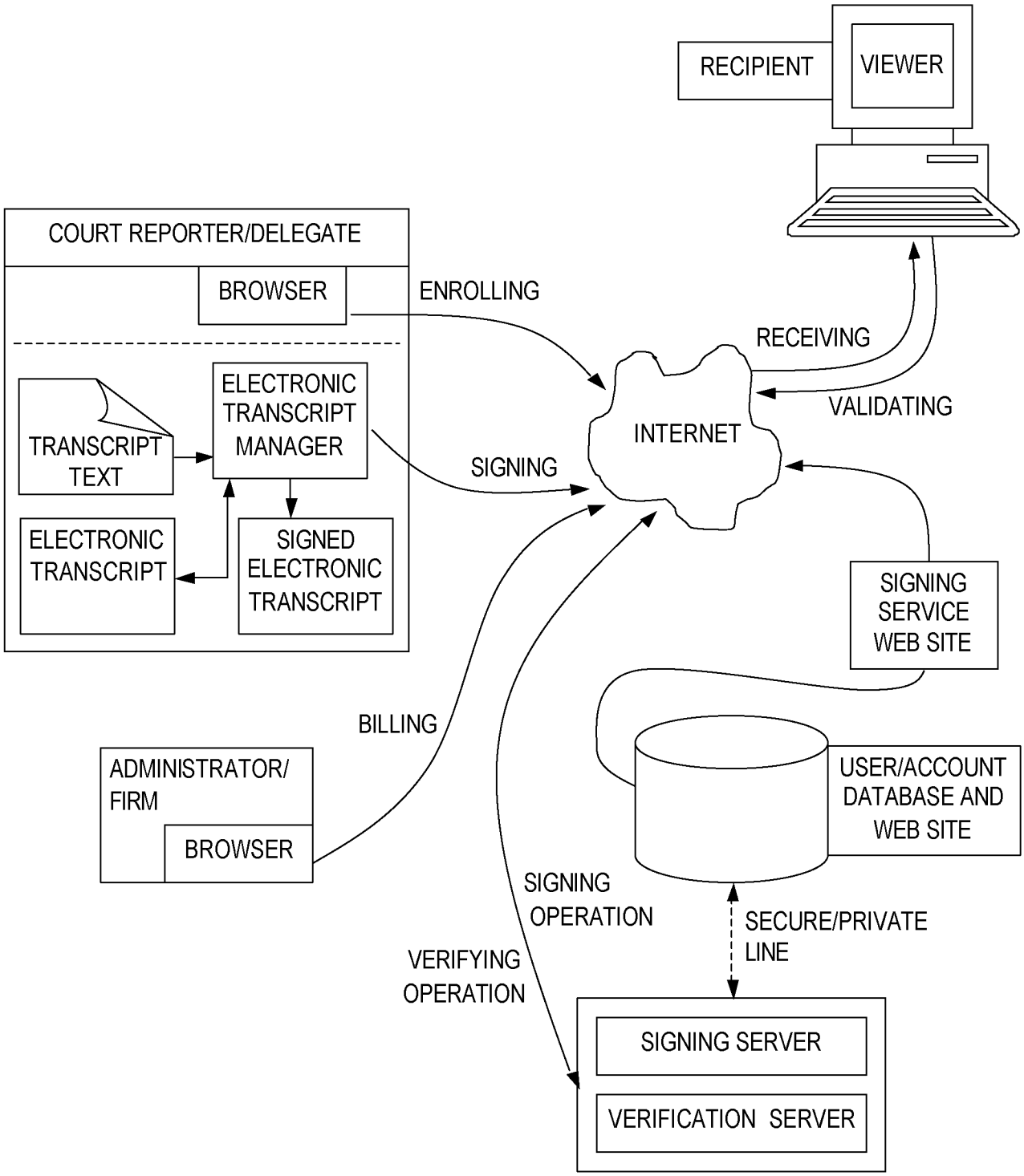
RECIPIENT
VIEWER
COURT REPORTER/DELEGATE
BROWSER
ENROLLING
RECEIVING
VALIDATING
ELECTRONIC TRANSCRIPT MANAGER
TRANSCRIPT TEXT
INTERNET
SIGNING
ELECTRONIC TRANSCRIPT
SIGNED ELECTRONIC TRANSCRIPT
SIGNING SERVICE WEB SITE
BILLING
ADMINISTRATOR/ FIRM
BROWSER
USER/ACCOUNT DATABASE AND WEB SITE
SIGNING OPERATION
SECURE/PRIVATE LINE
VERIFYING OPERATION
SIGNING SERVER
VERIFICATION SERVER

FIG.1

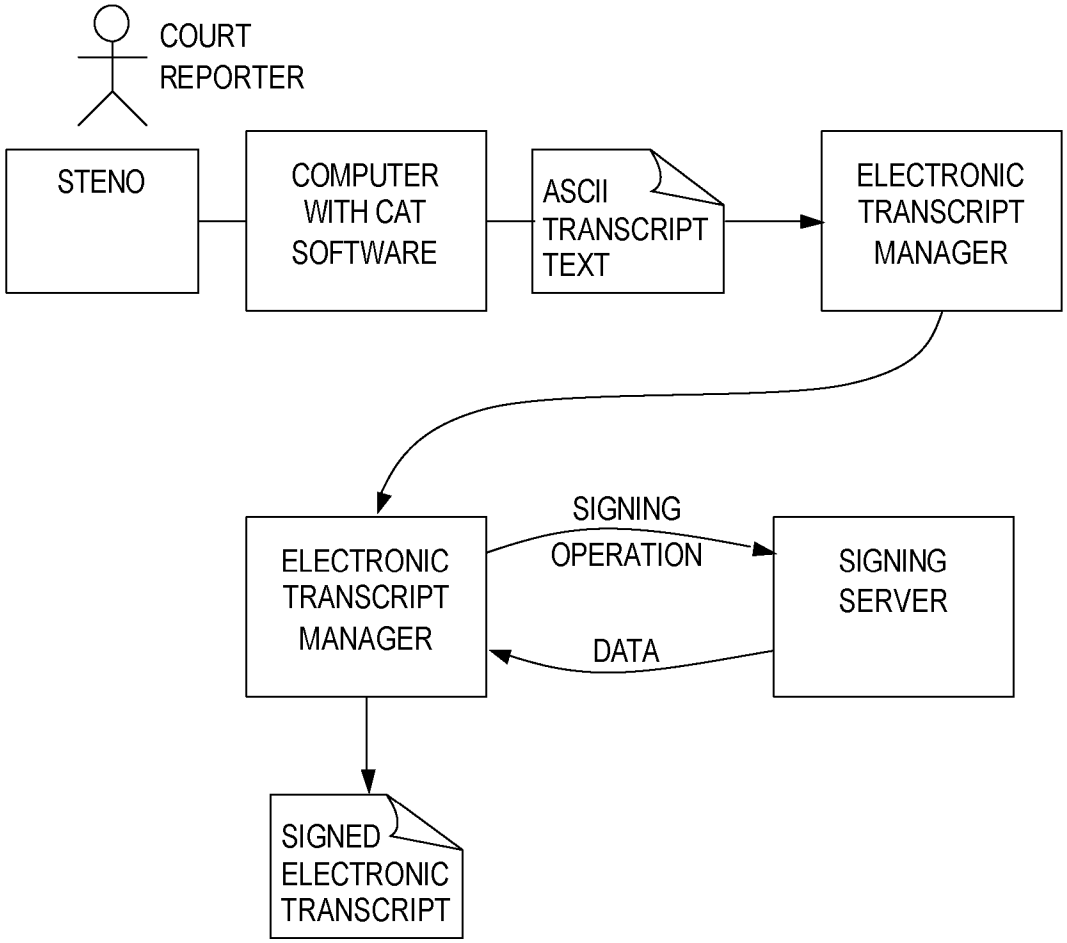
COURT
REPORTER
STENO
COMPUTER
WITH CAT
SOFTWARE
ASCII
TRANSCRIPT
TEXT
ELECTRONIC
TRANSCRIPT
MANAGER
ELECTRONIC
TRANSCRIPT
MANAGER
SIGNING
OPERATION
DATA
SIGNING
SERVER
SIGNED
ELECTRONIC
TRANSCRIPT

FIG.2

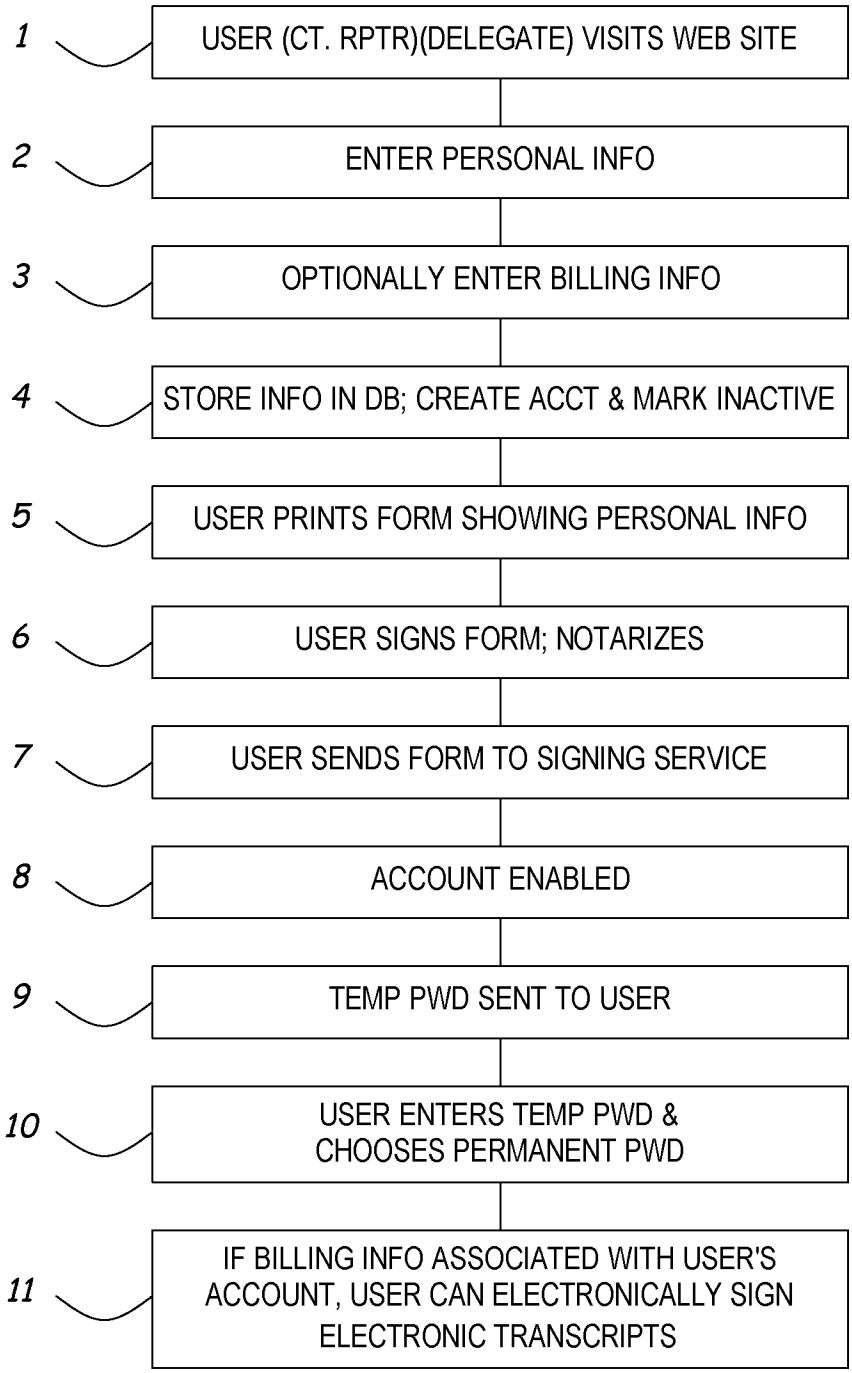
1
USER (CT. RPTR)(DELEGATE) VISITS WEB SITE
2
ENTER PERSONAL INFO
3
OPTIONALLY ENTER BILLING INFO
4
STORE INFO IN DB; CREATE ACCT & MARK INACTIVE
5
USER PRINTS FORM SHOWING PERSONAL INFO
6
USER SIGNS FORM; NOTARIZES
7
USER SENDS FORM TO SIGNING SERVICE
8
ACCOUNT ENABLED
9
TEMP PWD SENT TO USER
10
USER ENTERS TEMP PWD &
CHOOSES PERMANENT PWD
11
IF BILLING INFO ASSOCIATED WITH USER'S
ACCOUNT, USER CAN ELECTRONICALLY SIGN
ELECTRONIC TRANSCRIPTS

FIG.3

CREATING AN ELECTRONIC TRANSCRIPT

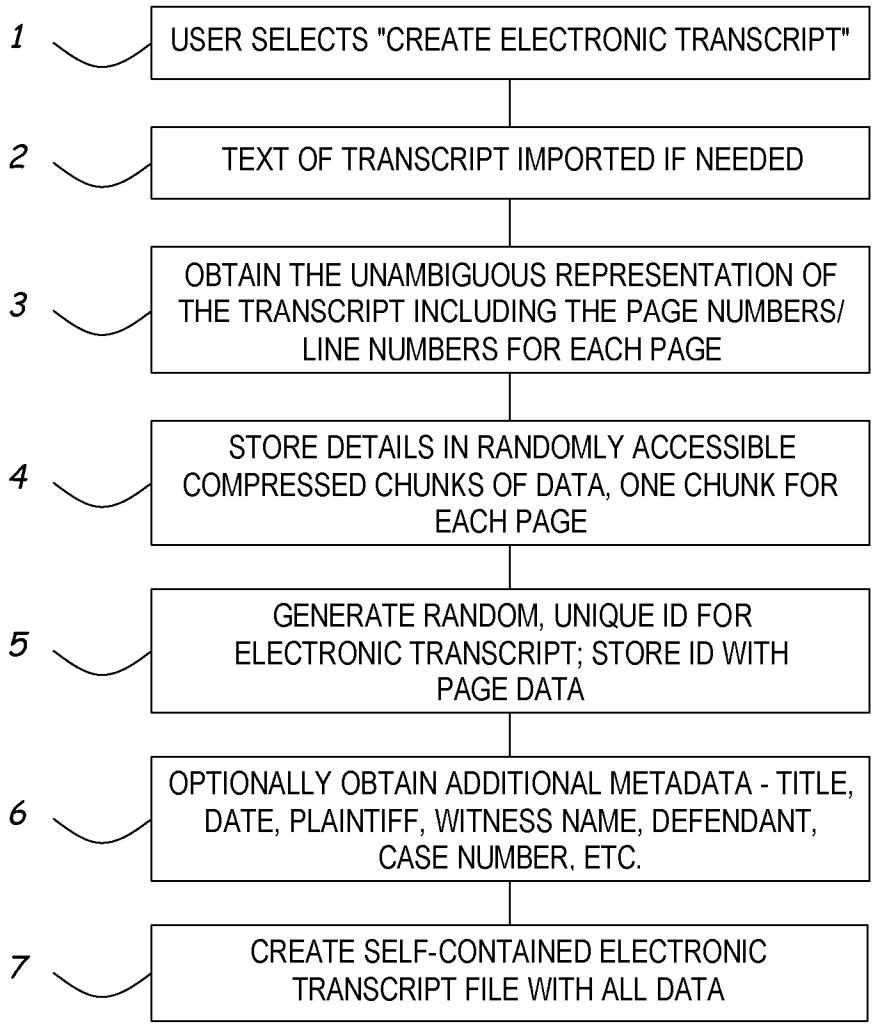

FIG.4

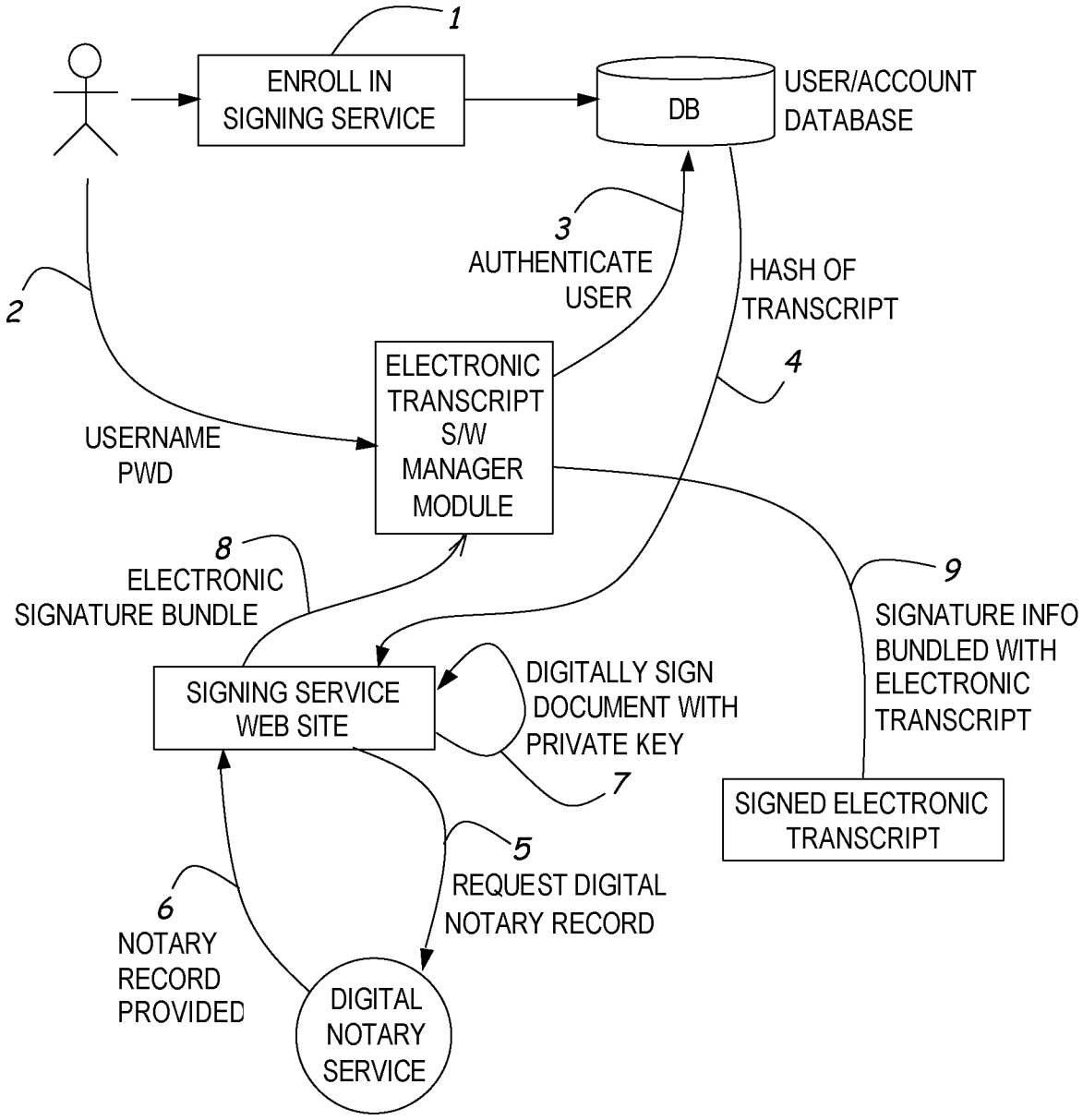
1
ENROLL IN SIGNING SERVICE
DB
USER/ACCOUNT DATABASE
2
3
AUTHENTICATE USER
HASH OF TRANSCRIPT
4
ELECTRONIC TRANSCRIPT S/W MANAGER MODULE
USERNAME PWD
8
ELECTRONIC SIGNATURE BUNDLE
9
SIGNATURE INFO BUNDLED WITH ELECTRONIC TRANSCRIPT
SIGNING SERVICE WEB SITE
DIGITALLY SIGN DOCUMENT WITH PRIVATE KEY
7
SIGNED ELECTRONIC TRANSCRIPT
5
REQUEST DIGITAL NOTARY RECORD
6
NOTARY RECORD PROVIDED
DIGITAL NOTARY SERVICE

FIG.5

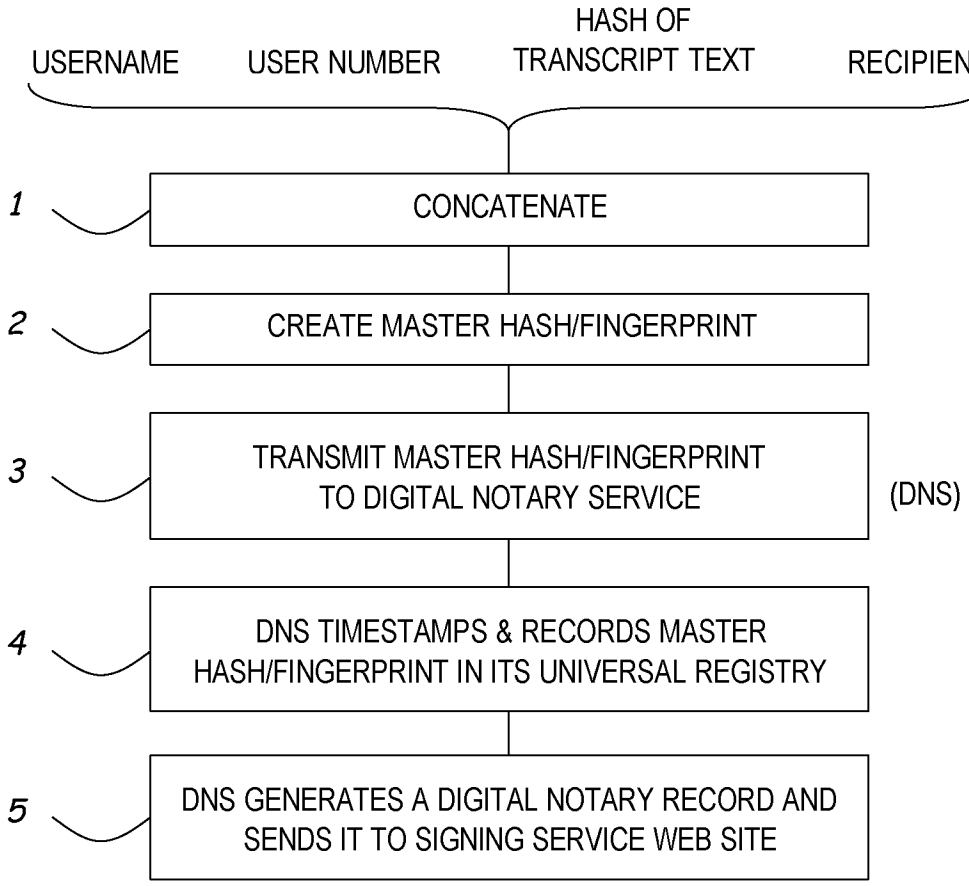
USERNAME
USER NUMBER
HASH OF TRANSCRIPT TEXT
RECIPIENT
1
CONCATENATE
2
CREATE MASTER HASH/FINGERPRINT
3
TRANSMIT MASTER HASH/FINGERPRINT TO DIGITAL NOTARY SERVICE
(DNS)
4
DNS TIMESTAMPS & RECORDS MASTER HASH/FINGERPRINT IN ITS UNIVERSAL REGISTRY
5
DNS GENERATES A DIGITAL NOTARY RECORD AND SENDS IT TO SIGNING SERVICE WEB SITE

FIG.6

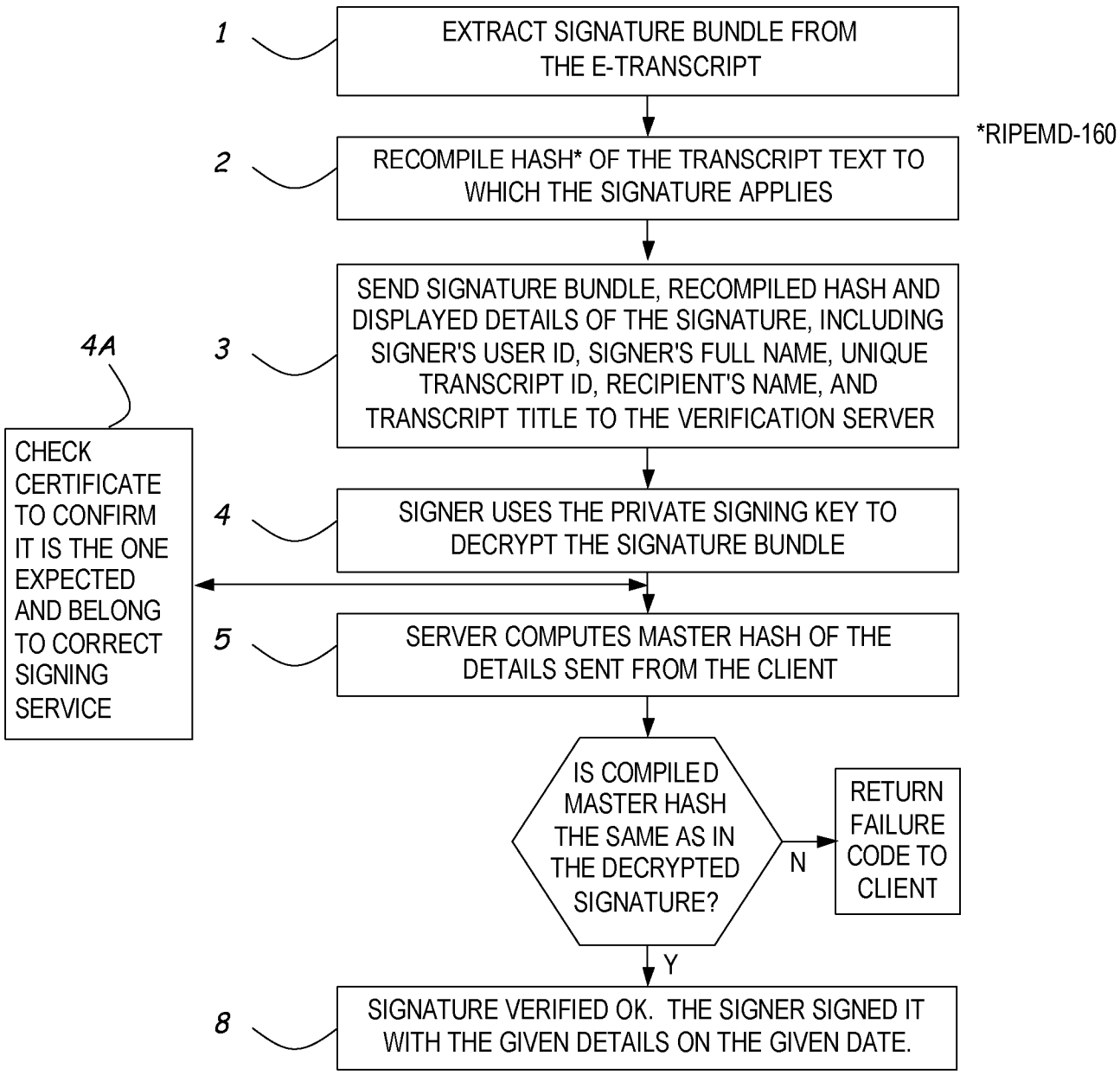
VERIFYING A SIGNATURE
1
EXTRACT SIGNATURE BUNDLE FROM THE E-TRANSCRIPT
2
RECOMPILE HASH* OF THE TRANSCRIPT TEXT TO WHICH THE SIGNATURE APPLIES
*RIPEMD-160
3
SEND SIGNATURE BUNDLE, RECOMPILED HASH AND DISPLAYED DETAILS OF THE SIGNATURE, INCLUDING SIGNER'S USER ID, SIGNER'S FULL NAME, UNIQUE TRANSCRIPT ID, RECIPIENT'S NAME, AND TRANSCRIPT TITLE TO THE VERIFICATION SERVER
4A
CHECK CERTIFICATE TO CONFIRM IT IS THE ONE EXPECTED AND BELONG TO CORRECT SIGNING SERVICE
4
SIGNER USES THE PRIVATE SIGNING KEY TO DECRYPT THE SIGNATURE BUNDLE
5
SERVER COMPUTES MASTER HASH OF THE DETAILS SENT FROM THE CLIENT
IS COMPILED MASTER HASH THE SAME AS IN THE DECRYPTED SIGNATURE?
N
RETURN FAILURE CODE TO CLIENT
Y
8
SIGNATURE VERIFIED OK. THE SIGNER SIGNED IT WITH THE GIVEN DETAILS ON THE GIVEN DATE.

FIG.7

DELEGATE SIGNING PROCESS

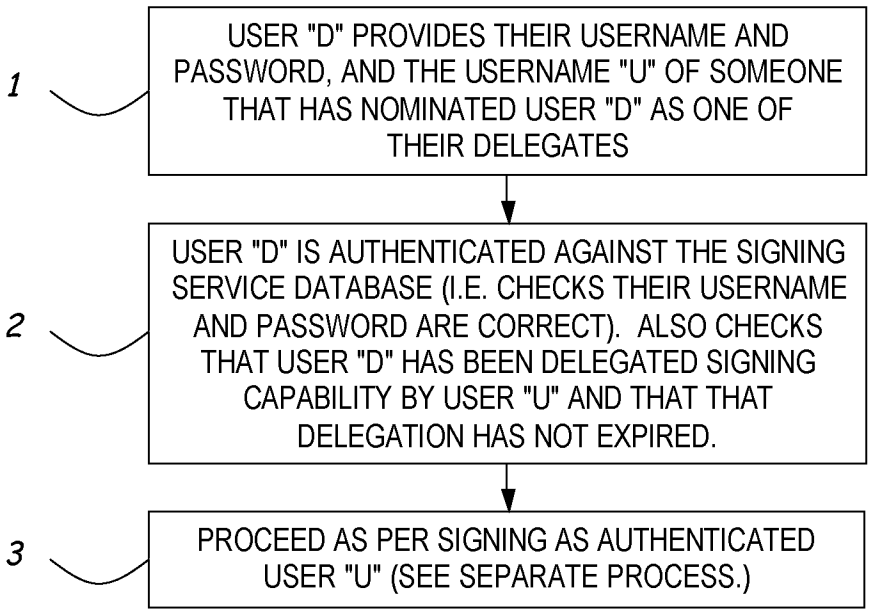

FIG.8

BATCH SIGNING PROCESS

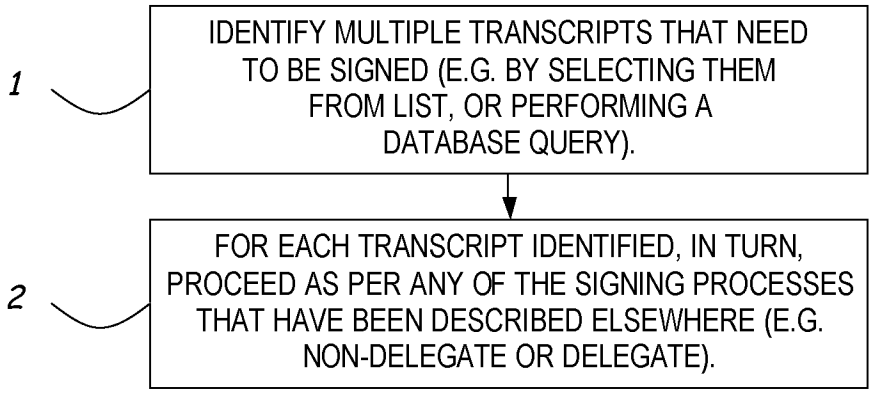

FIG.9

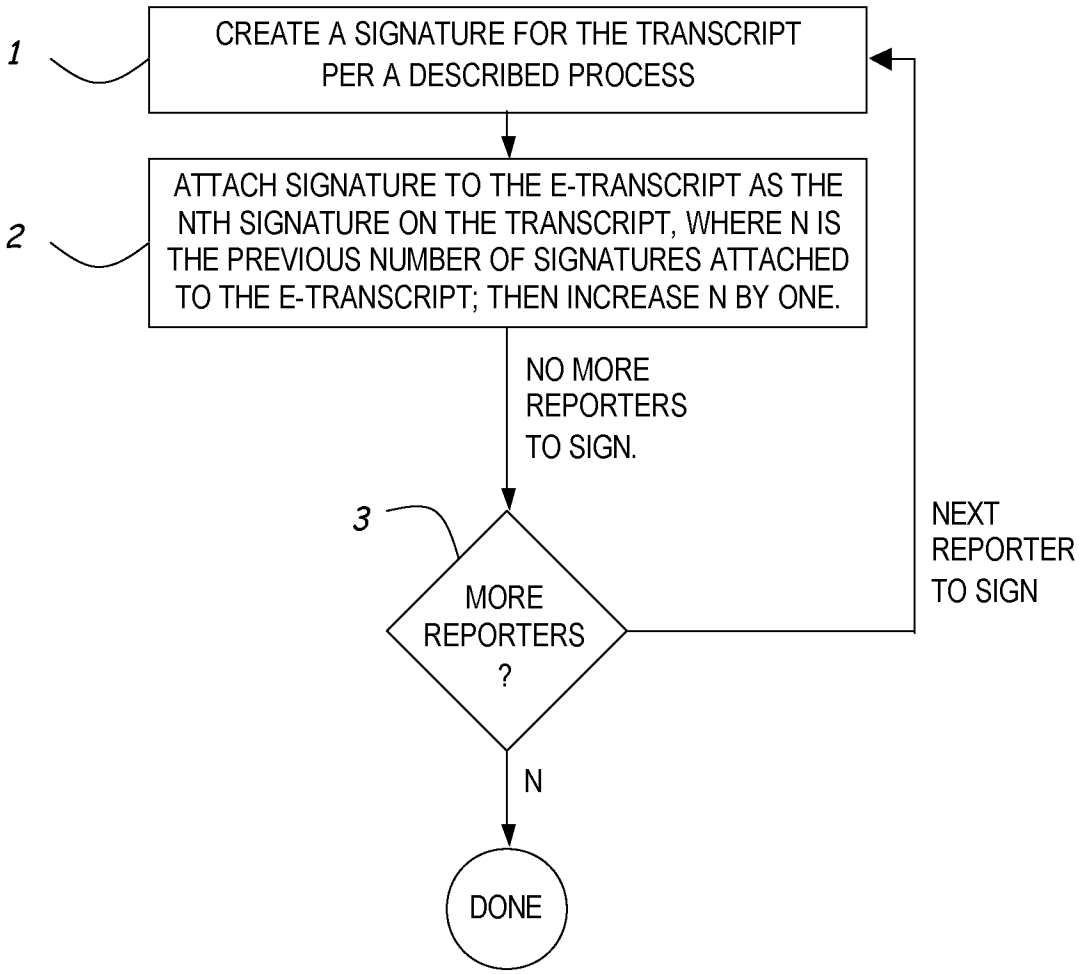
1
CREATE A SIGNATURE FOR THE TRANSCRIPT PER A DESCRIBED PROCESS
2
ATTACH SIGNATURE TO THE E-TRANSCRIPT AS THE NTH SIGNATURE ON THE TRANSCRIPT, WHERE N IS THE PREVIOUS NUMBER OF SIGNATURES ATTACHED TO THE E-TRANSCRIPT; THEN INCREASE N BY ONE.
NO MORE REPORTERS TO SIGN.
3
MORE REPORTERS ?
NEXT REPORTER TO SIGN
N
DONE

FIG.10

DETERMINING CERTIFICATE PAGE AUTOMATICALLY

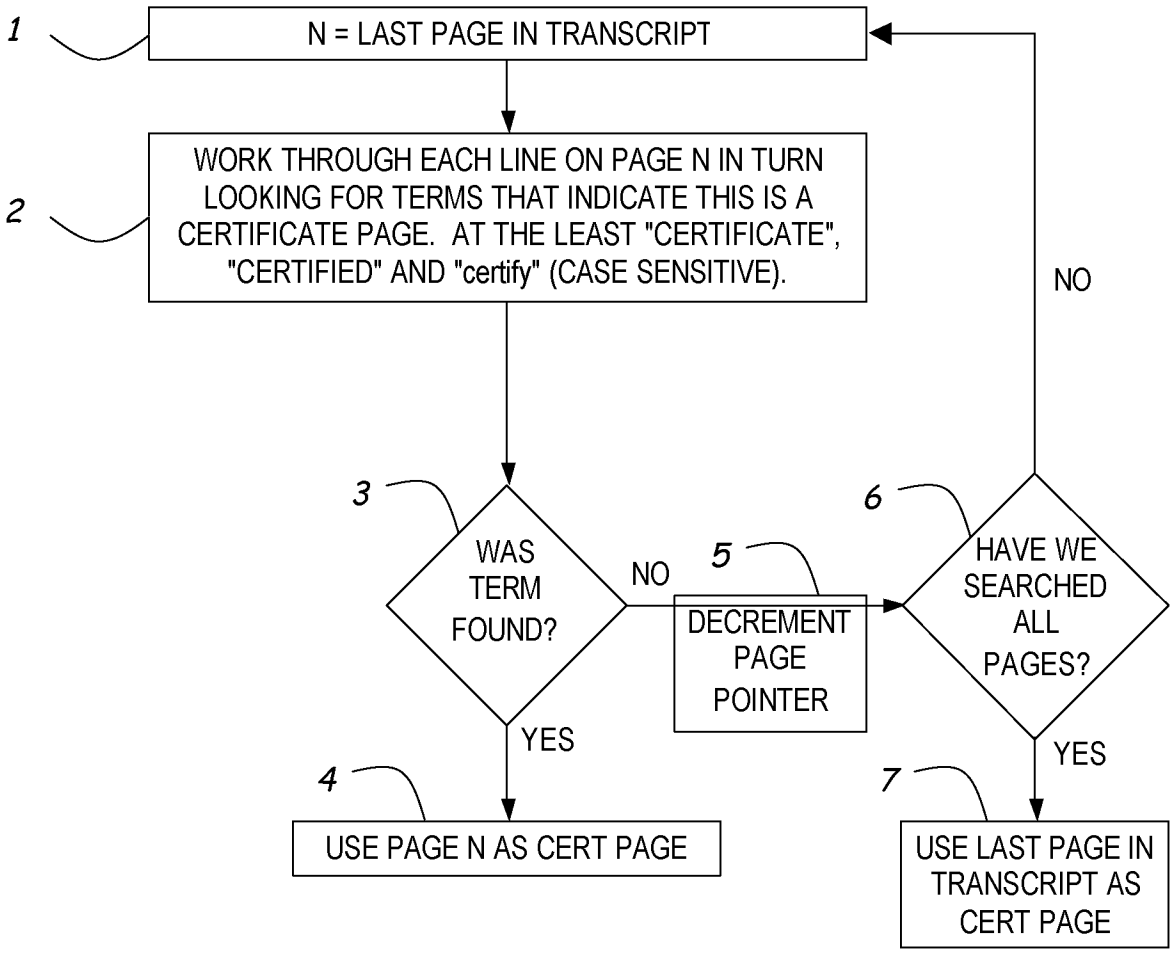

FIG.11

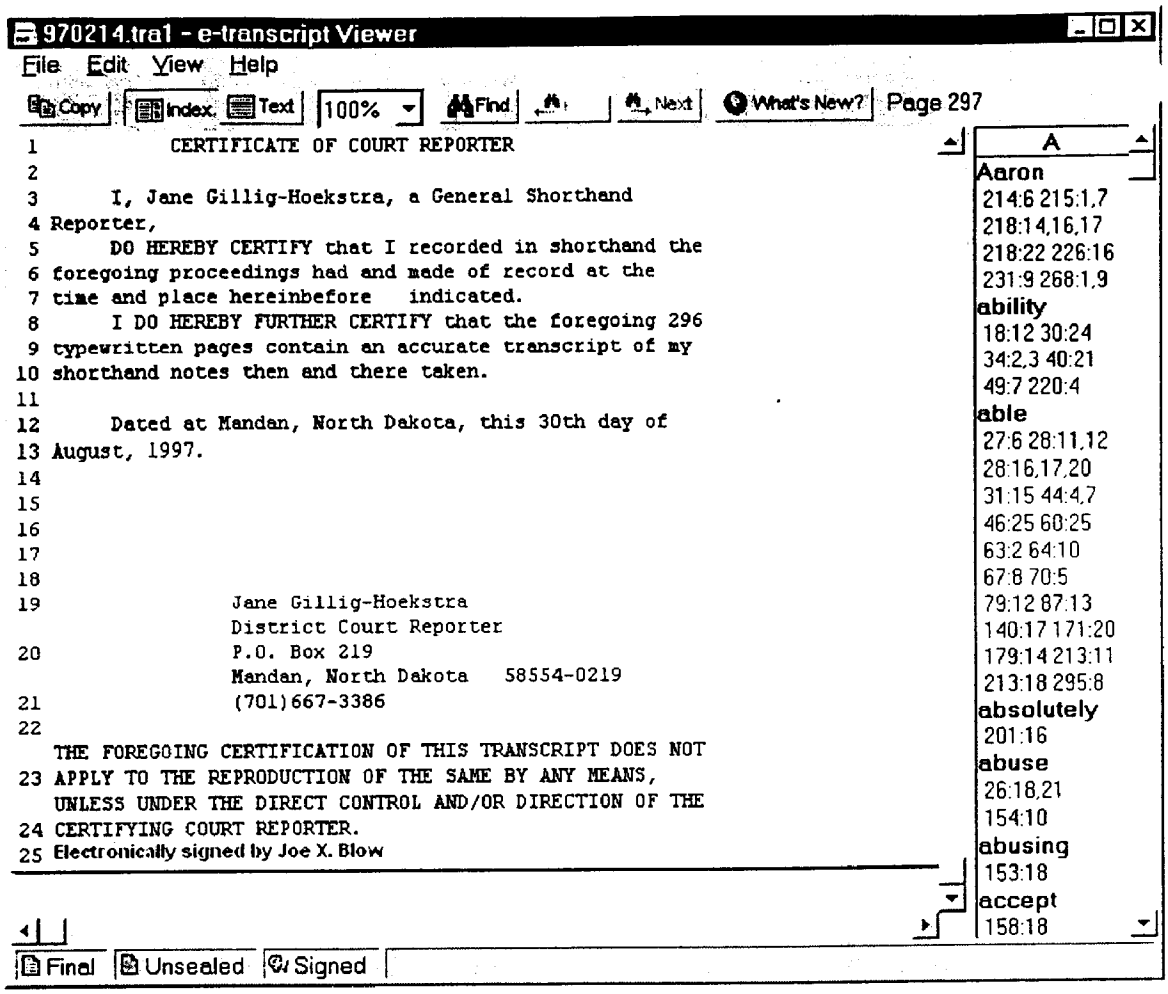
970214.tra1 - e-transcript Viewer
File Edit View Help
Copy Index Text 100% Find Next What's New? Page 297
CERTIFICATE OF COURT REPORTER
I, Jane Gillig-Hoekstra, a General Shorthand Reporter,
DO HEREBY CERTIFY that I recorded in shorthand the foregoing proceedings had and made of record at the time and place hereinbefore indicated.
I DO HEREBY FURTHER CERTIFY that the foregoing 296 typewritten pages contain an accurate transcript of my shorthand notes then and there taken.
Dated at Mandan, North Dakota, this 30th day of August, 1997.
Jane Gillig-Hoekstra
District Court Reporter
P.O. Box 219
Mandan, North Dakota 58554-0219
(701)667-3386
THE FOREGOING CERTIFICATION OF THIS TRANSCRIPT DOES NOT APPLY TO THE REPRODUCTION OF THE SAME BY ANY MEANS, UNLESS UNDER THE DIRECT CONTROL AND/OR DIRECTION OF THE CERTIFYING COURT REPORTER.
Electronically signed by Joe X. Blow
A
Aaron
214:6 215:1,7
218:14,16,17
218:22 226:16
231:9 268:1,9
ability
18:12 30:24
34:2,3 40:21
49:7 220:4
able
27:6 28:11,12
28:16,17,20
31:15 44:4,7
46:25 60:25
63:2 64:10
67:8 70:5
79:12 87:13
140:17 171:20
179:14 213:11
213:18 295:8
absolutely
201:16
abuse
26:18,21
154:10
abusing
153:18
accept
158:18
Final Unsealed Signed

FIG. 12

e-transcript Signature (1)
This e-transcript is electronically signed
Signature Details
Signed by: Joe X. Blow (201-210-665-4663)
Signed on: 5/15/2000 at 9:55AM
realLegal.com
NDTCA
National Digital Transcript Certification Authority
Certificate Page
Verify Signature

FIG.13

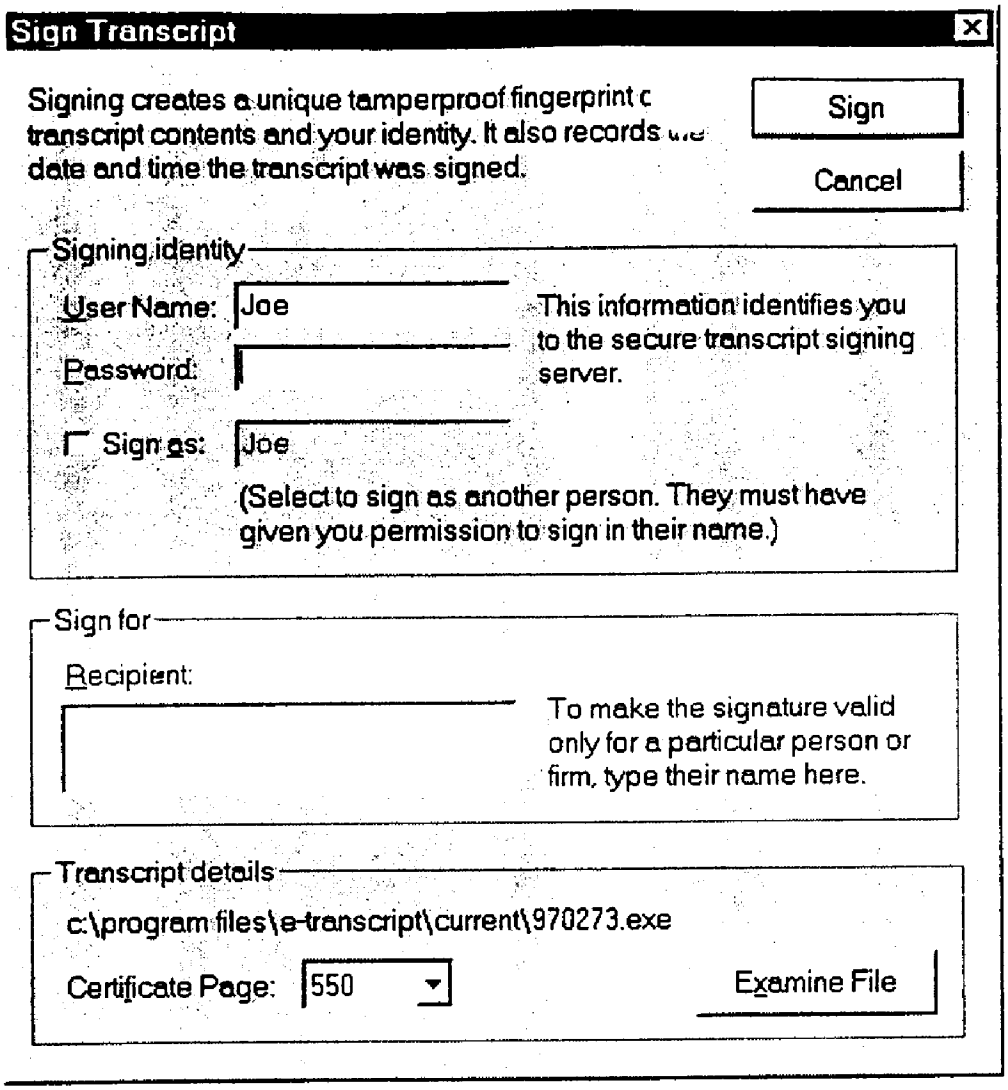
Sign Transcript
Signing creates a unique tamperproof fingerprint c
transcript contents and your identity. It also records
date and time the transcript was signed.
Sign
Cancel
Signing identity
User Name:
Joe
This information identifies you to the secure transcript signing server.
Password:
Sign as:
Joe
(Select to sign as another person. They must have given you permission to sign in their name.)
Sign for
Recipient:
To make the signature valid only for a particular person or firm, type their name here.
Transcript details
c:\program files\e-transcript\current\970273.exe
Certificate Page:
550
Examine File

FIG.14

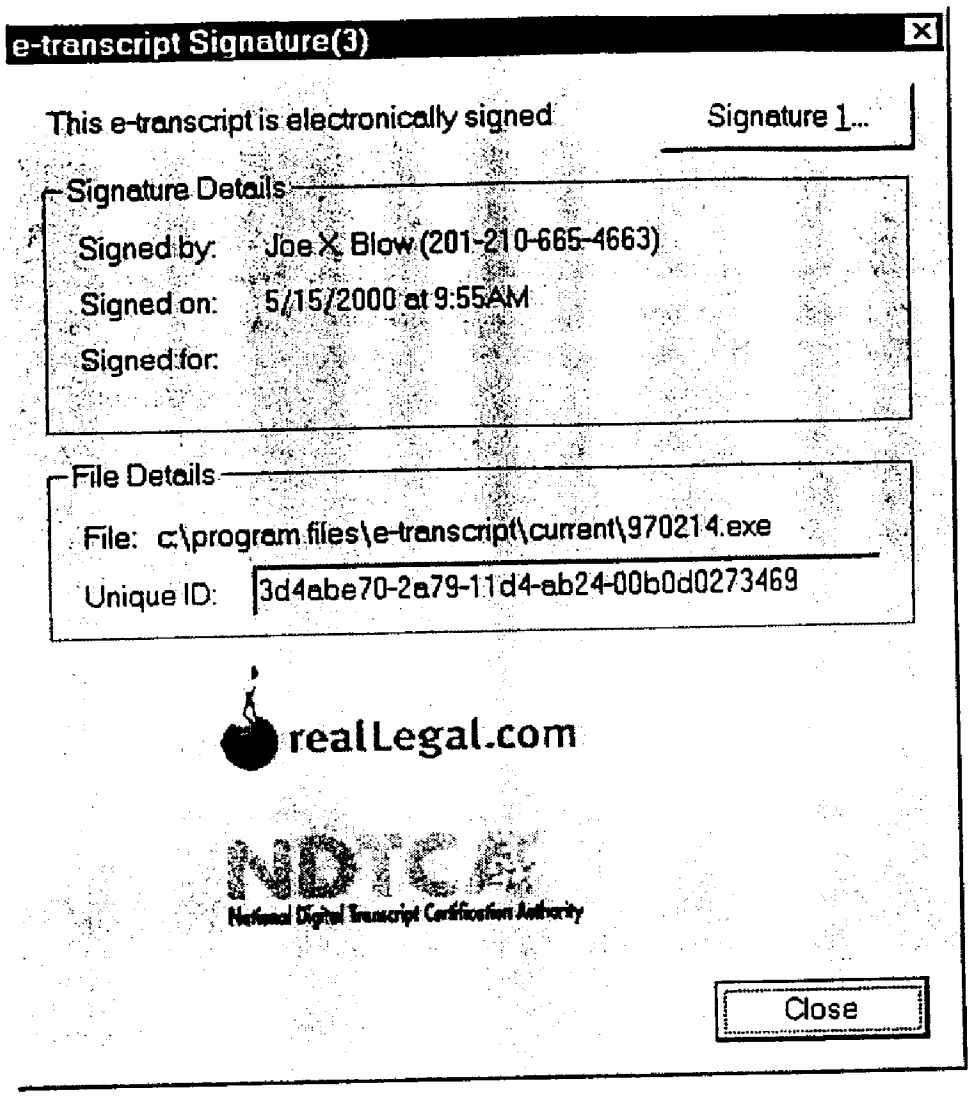
e-transcript Signature(3)
This e-transcript is electronically signed
Signature 1...
Signature Details
Signed by: Joe X. Blow (201-210-665-4663)
Signed on: 5/15/2000 at 9:55AM
Signed for:
File Details
File: c:\program files\e-transcript\current\970214.exe
Unique ID: 3d4abe70-2a79-11d4-ab24-00b0d0273469
realLegal.com
Close

FIG.15

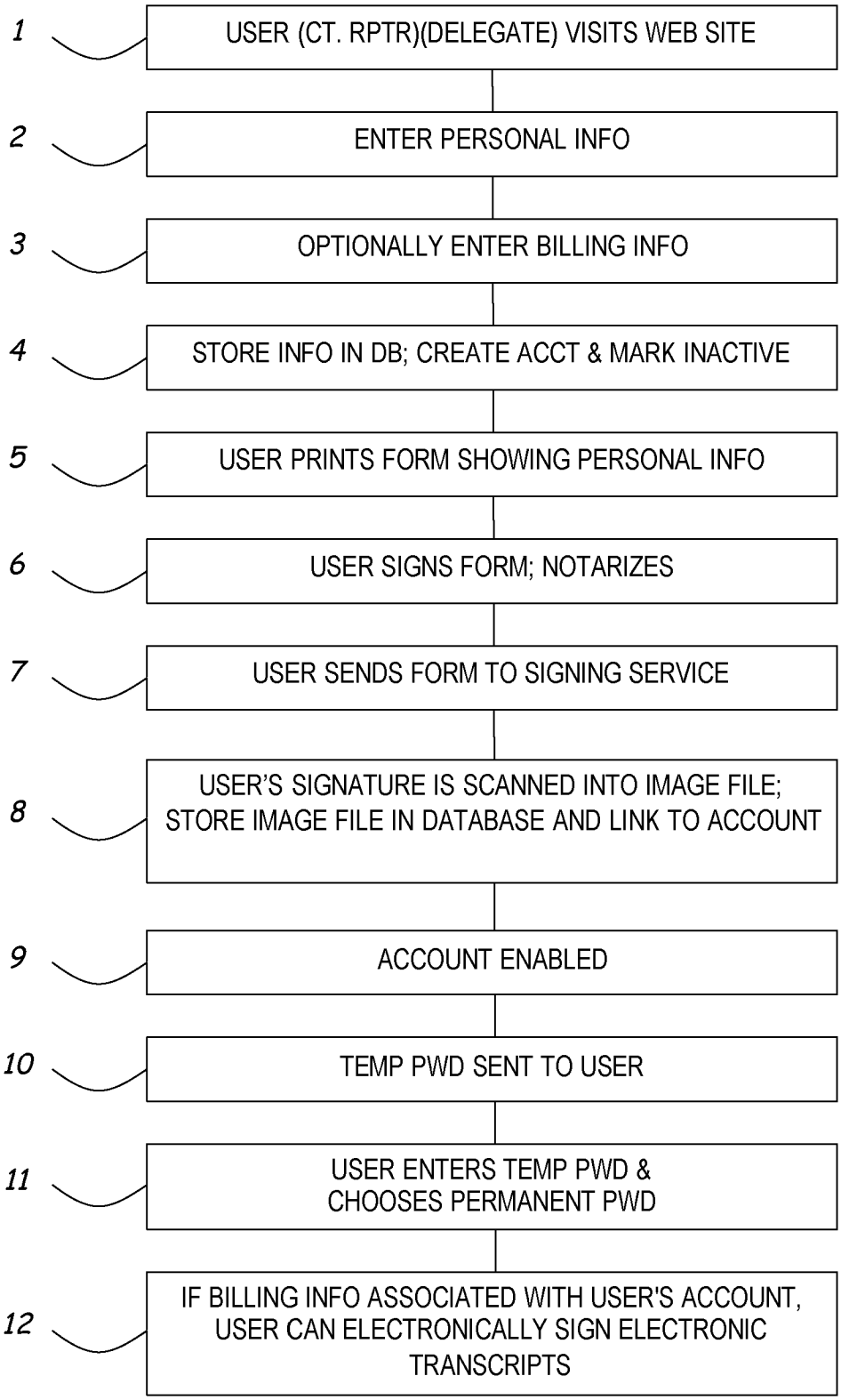
1
USER (CT. RPTR)(DELEGATE) VISITS WEB SITE
2
ENTER PERSONAL INFO
3
OPTIONALLY ENTER BILLING INFO
4
STORE INFO IN DB; CREATE ACCT & MARK INACTIVE
5
USER PRINTS FORM SHOWING PERSONAL INFO
6
USER SIGNS FORM; NOTARIZES
7
USER SENDS FORM TO SIGNING SERVICE
8
USER'S SIGNATURE IS SCANNED INTO IMAGE FILE;
STORE IMAGE FILE IN DATABASE AND LINK TO ACCOUNT
9
ACCOUNT ENABLED
10
TEMP PWD SENT TO USER
11
USER ENTERS TEMP PWD &
CHOOSES PERMANENT PWD
12
IF BILLING INFO ASSOCIATED WITH USER'S ACCOUNT,
USER CAN ELECTRONICALLY SIGN ELECTRONIC
TRANSCRIPTS

FIG.16

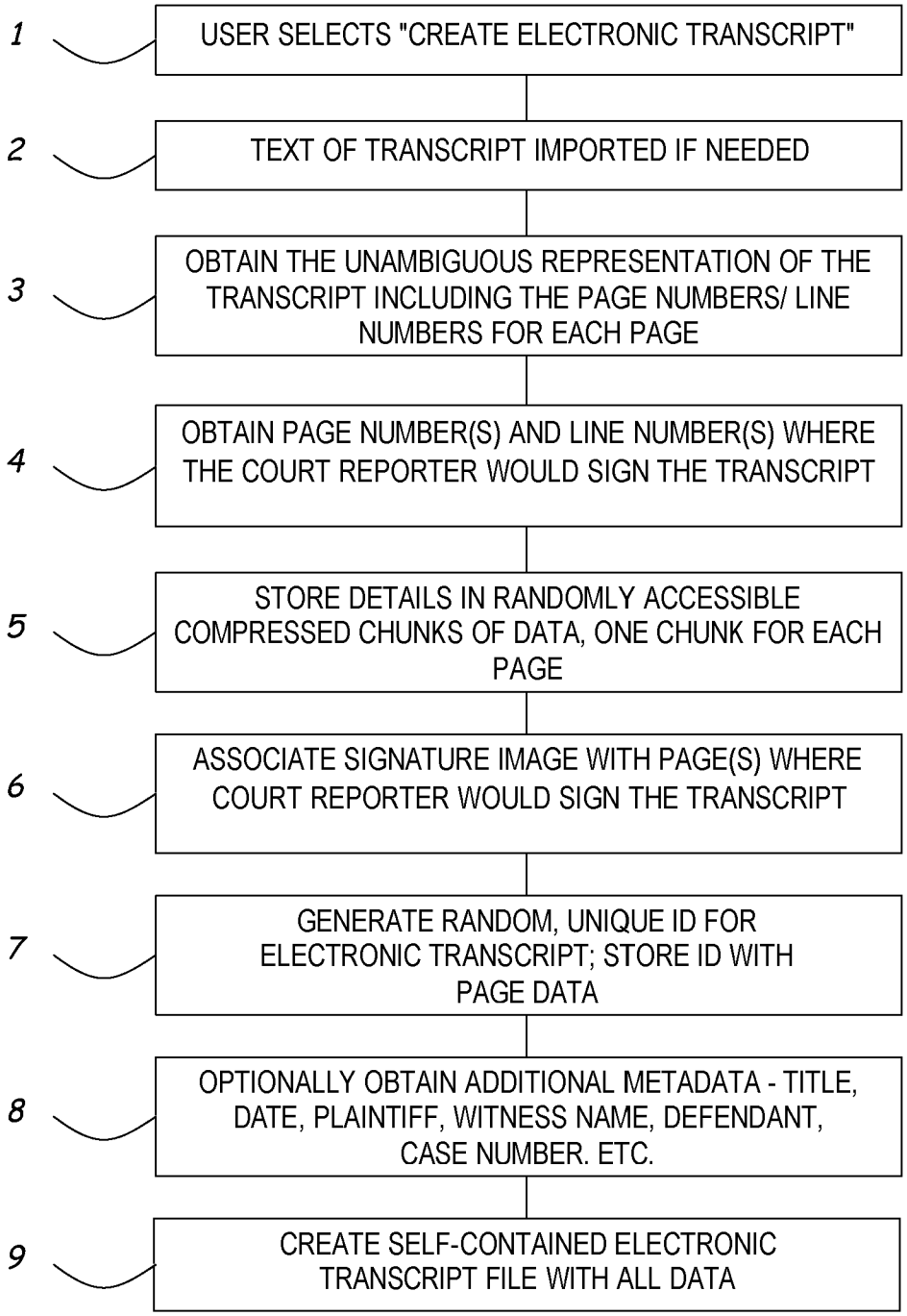
1
USER SELECTS "CREATE ELECTRONIC TRANSCRIPT"
2
TEXT OF TRANSCRIPT IMPORTED IF NEEDED
3
OBTAIN THE UNAMBIGUOUS REPRESENTATION OF THE TRANSCRIPT INCLUDING THE PAGE NUMBERS/ LINE NUMBERS FOR EACH PAGE
4
OBTAIN PAGE NUMBER(S) AND LINE NUMBER(S) WHERE THE COURT REPORTER WOULD SIGN THE TRANSCRIPT
5
STORE DETAILS IN RANDOMLY ACCESSIBLE COMPRESSED CHUNKS OF DATA, ONE CHUNK FOR EACH PAGE
6
ASSOCIATE SIGNATURE IMAGE WITH PAGE(S) WHERE COURT REPORTER WOULD SIGN THE TRANSCRIPT
7
GENERATE RANDOM, UNIQUE ID FOR ELECTRONIC TRANSCRIPT; STORE ID WITH PAGE DATA
8
OPTIONALLY OBTAIN ADDITIONAL METADATA - TITLE, DATE, PLAINTIFF, WITNESS NAME, DEFENDANT, CASE NUMBER. ETC.
9
CREATE SELF-CONTAINED ELECTRONIC TRANSCRIPT FILE WITH ALL DATA

FIG.17